Virginia Gardening

with Jim May

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Protecting trees and shrubs from the damaging effects of winter

By Jim May

Snow, sleet, ice, wind. We've had it all this year as winter has started and stopped several times. Driving conditions, school closings, keeping the house warm and maybe the ski report are things we think about this time of year, but we should also consider how our outdoor plants are handling it. Low temperatures, winter winds and frozen precipitation can all be very damaging and protecting trees and shrubs from the ravages of winter is critical to their survival.

This protection starts with planting the right plant in the right place. In the colder areas of the state, placing broadleaved evergreens like hollies and rhododendrons on the west or northwest side of the house where they will get lots of afternoon sun and wind is a sure recipe for disaster. Even in warmer areas sun, wind and a lack of moisture can be very detrimental to these plants.

The genetic capacity of a plant to acclimate, or transform from a non-hardy to a hardy condition in the fall determines its cold hardiness. Trees and shrubs are able to survive freezing temperatures because of metabolic changes that occur in the plant between summer and winter. The shorter days of late summer initiate the hardening process by slowing vegetative growth.

Terms such as cold hardy, frost hardy and winter hardy are used to describe woody plants that can survive freezing temperatures without injury during winter dormancy. We can influence this survival capacity greatly by properly caring for plants before winter hits. A plant that goes into the winter stressed is more fragile and susceptible to winter damage.

Winter injury may show up as excessive browning of evergreen foliage, injury or death of flower buds, splitting of bark, or death of roots. The extent of the damage is often difficult to determine, and may only be exhibited as delayed bud development or slightly reduced growth the following spring.

Environmental factors also strongly influence winter hardiness. Low temperatures, wind and even winter sun can combine to make it difficult for plants to utilize soil moisture.

The leaves of evergreen plants transpire some moisture even during the winter months. Shallow rooted broad-leaved evergreens like rhododendrons and azaleas are especially susceptible to drying out, or desiccation in winter. The alternate freezing and thawing of the soil can heave plants from firm contact with the soil and expose the roots to drying winds. Even needle-leafed evergreens such as yew, arborvitae and hemlock can be affected.

Many plants have protective mechanisms to help them deal with the winter. Some, like heavenly bamboo (Nandina domestica) and privet (Ligustrum spp.) will shed some leaves; rhododendrons will roll their leaves downward and some viburnums will have wilted-looking leaves all

winter. It is normal for rhododendrons to have their leaves rolled on cold mornings, but if the daytime temperature rises into the 40s and the leaves still look rolled, the plant needs water.

New growth stimulated by late summer fertilization does not have time to harden off and can also be affected by winter weather. Freezing temperatures cause the water inside the plant cells to expand and freeze, rupturing cell walls. This injury will show up as dead branch tips.

Fertilizing in the fall after plants become dormant is more beneficial to trees and shrubs and may even increase a plant's chances to survive a brutal winter. As long as the soil temperature is above 40 degrees, plant roots will still grow and utilize the fertilizer. Mulching not only retains moisture but will help maintain a higher soil temperature for a longer period.

A rapid drop in temperature from afternoon to night can also affect the trunks of trees, especially thin-barked ones like maples and fruit trees. The temperature drop can cause the water under the bark to freeze and expand, splitting the bark open. Southwest injury is the most common name for this phenomenon because it happens mainly on the southwest side of the tree where warm afternoon sun creates further extremes between day and night temperatures.

Trunk wraps made of burlap, spiraled plastic and other materials are effective in preventing this type of injury. Make sure you check these wraps several times a year and adjust them as the tree grows.

Snow and ice can be very damaging to plants both from its weight and careless removal. Ice can be particularly damaging and once a plant is covered with ice there is not much you can do except hope for warmer temperatures. Prevention is the key. Plant them away from the house eaves and other snow and ice-collecting areas, where the snow or ice is likely to fall or slide onto them.

Snow should be removed with a broom using an upward sweeping motion to avoid further damage to branches. Shrubs and small trees can also be protected by placing a windbreak made of burlap or other fabric stretched over a wooden frame on the windy side of the plant.

If you see problem areas in your landscape this winter, even though it may be too late to do much about it now, keep it in mind and make changes before next year. Consult your local nursery for suggestions for your area of Virginia.

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